REPORT OF THE
JOINT SUBCOMMITTEE STUDYING

OFF-SITE ROAD IMPROVEMENTS

TO THE GOVERNOR AND
THE GENERAL ASSEMBLY OF VIRGINIA

HOUSE DOCUMENT NO. 7

COMMONWEALTH OF VIRGINIA
RICHMOND
1990

MEMBERS OF THE JOINT SUBCOMMITTEE

The Honorable C. Richard Cranwell, Chairman
Mr. Joseph Alexander, Vice chairman
The Honorable Charles J. Colgan
The Honorable Mark L. Earley
The Honorable Thomas M. Jackson, Jr.
The Honorable Robert Tata
Mr. Harold Heischober

STAFF

Legal and Research

Division of Legislative Services
C. M. Conner, Jr. Senior Attorney
Robert J. Austin, Research Associate
Marcia A. Melton, Executive Secretary

Jill Stevens, House Clerk's Office

Introduction

House Joint Resolution No. 125 of the 1988 Session of the General Assembly established this subcommittee to study off-site road improvements, local zoning and subdivision authority, and the impact of land development on the public infrastructure. The study was a continuation of the study by the Governor's Commission on Transportation in the Twenty-First Century, which considered a wide range of funding options for localities in meeting road needs but never fully addressed this aspect of its work in its final report.

The joint subcommittee elected Delegate C. Richard Cranwell as chairman and Mr. Joseph Alexander, a member of the Fairfax County Board of Supervisors, as vice-chairman at its initial meeting in Richmond on June 7, 1988. Other members of the joint subcommittee included Delegates Thomas M. Jackson, Jr. of Hillsville and Robert Tata of Virginia Beach, Senators Charles J. Colgan of Prince William and Mark L. Earley of Chesapeake, and Mr. Harold Heischober, a member of the Virginia Beach City council.

The joint subcommittee thereafter held a series of five public hearings throughout the state: Chesapeake (July 25), Abingdon (August 31), Prince William (November 16), Charlottesville (December 7), and Richmond (December 8). Recommendations were determined at a final meeting in Richmond on December 19, 1988.

THE PROBLEM FACING HIGH-GROWTH LOCALITIES

Constitutional requirements, statutory provisions, Virginia court decisions, and general case law place significant constraints on the ability of a locality to use capital improvement plans, public facilities ordinances, and other land use and planning techniques to control or limit the pace of development. The capital budgets of localities where significant growth is taking place thus face a heavy burden in meeting public facility demands. Evidence presented to the joint subcommittee as well as in numerous other forums in recent years indicate that local governments have not been able to keep up with this demand from existing resources. Recent efforts by the Commonwealth, as in expanded funding for roads, provide valuable assistance but fall well short of fully and completely closing the gap.

Growth and Development in Virginia

Virginia is one of the most rapidly growing states in the nation. The Commonwealth's population has increased from 5,356,818 in 1980 to an estimated 5,903,700 in 1987, and increase of more than ten percent and well above the national average. In fact, only five other states (California, Texas, Florida, Georgia, and Arizona) show a higher numerical increase during the same period. (footnote 1)

Most of the growth is concentrated in the "Golden Crescent." The University of Virginia's Center for Public Service describes the Crescent as an area:

> anchored at its end points by the population centers of Baltimore/Washington and Norfolk. Charlottesville and Richmond lie along its rim. Its framework is formed by the three major U.S. highways that connect these cities: I-64, I-95, and U.S. 29.

Within the Crescent, the Northern Virginia and Norfolk-Virginia Beach-Newport News areas have grown at rates of 20 and 16 percent respectively since 1980. These two areas account for three-fourths of the state's total population growth.

The Richmond and Charlottesville metropolitan areas have grown at a more moderate rate. The county portions of these metropolitan areas nevertheless have experienced growth rates above the state average, and growth is accelerating at a more rapid rate than in the last decade.

Population growth increasingly is becoming the pattern within the Crescent in the areas adjacent to the metropolitan centers: between Richmond and Charlottesville, north between Charlottesville and Northern Virginia, and in the once very rural areas of Eastern Virginia. In fact, an examination of the Table in the Appendix (A1-6) will show that these suburbanizing localities have experienced some of the highest growth of all since 1980. The fastest growing county in the state, for example, has been Gloucester County.

The picture is quite different outside the Golden Crescent, where only two small areas grew at comparable rates. Frederick and Warren counties no doubt experience some of the spillover from Northern Virginia. Bedford and Franklin counties lie in proximity to the Lynchburg and Roanoke metropolitan areas. While these two metropolitan areas have grown only by one to two percent, the two counties have experienced higher growth both from spillover and from recreational and retirement development. Very modest increases, or actual decreases in some rural counties, are the rule elsewhere.

These patterns are expected to hold true for the coming decade. The Virginia Department of Planning and Budget's last series of projections called for an increase from 6,096,700 in 1990 to 6,664,600 in 2000, a growth rate of 9.3 percent (footnote 2). More recently, however, the United States Bureau of the Census estimated that the state's population will be 6,157,000 in 1990 and will grow to 6,877,000 in 2000, an increase of 11.7 percent. The state projections are expected to be updated later this year and probably will show that the projections made earlier needed to be adjusted.

In addition to the population data, the joint subcommittee considered statistics on traffic growth prepared at its request by the Virginia Department of Transportation (footnote 3). The Department concluded that the population data were a better predictor of growth than were the traffic projections on a jurisdiction by jurisdiction basis. The traffic count program for selected locations produce a good annual statewide estimate of vehicle miles of travel but are not sufficient for estimates by locality. In addition, the Department does not produce estimates for cities.

The traffic data nevertheless produce a regional picture which supports the analysis of growth based on population. Daily vehicle miles of travel in the state increased from 73.4 million in 1980 to 98.7 million in 1987, or 34.6 percent. The Department estimates that by 1990 daily vehicle miles of travel will be 109.6 million and will reach 151 million by 2000, representing an increase of 53 percent for the next decade and a more than doubling in the twenty year period. A major portion of that growth has and will continue to occur in Northern Virginia, with increases significantly above the state average also found in the Richmond, Peninsula, Southeastern Virginia, Charlottesville, and Shenandoah Valley areas.

The series of public hearings confirmed the statistical impression that the problem is concentrated in the Golden Crescent. Interest was very high at the Northern Virginia, Tidewater, and Richmond hearings and, taking into account the smaller area, in Charlottesville. Little local interest was shown at the Southwest Virginia hearing, on the other hand. The Rural Planning Caucus actively has represented the interests of its members. It appears to the joint subcommittee, however, that the primary concern came from the group of counties within or on the fringe of the Golden Crescent who are experiencing spillover growth from the main metropolitan areas and who would fall within the area which the joint subcommittee recommends for inclusion in its legislative recommendations.

The joint subcommittee concluded that growth and its development consequences was not a statewide issue. It therefore addresses its recommendations to the areas of growth.

The Costs of Development and Growth

Local governments, developers, the business community, and citizens disagree on the means to finance capital improvements to meet the demand caused by population growth. On one point, however, there was little disagreement. The cost of expanding the public infrastructure to meet demand in the high growth areas far exceeds the capacity of local governments from existing funding sources alone.

A comprehensive assessment of local government infrastructure needs has not been compiled. An inventory of a cross section of growing counties and cities by the Virginia Municipal League is included in the Appendix (A7-18). Testimony and data from individual localities across the state at our public hearings, however, clearly documented the point.

- Loudoun County projects non-transportation capital improvement needs of $210 million and primary and secondary road needs in excess of $300 million over the next six years.

- Prince William County projects a road building shortfall of $300 million over the next ten years.

- The Virginia Department of Transportation's six year plan for highway funding for Fairfax County has a $584 million shortfall. The County's Advisory Transportation Commission determined that a minimum of $200 million needs to be spent on construction projects in Fairfax each year.

- Virginia Beach's capital improvement program for the next five years calls for spending almost $600 million. Its road needs alone to 2005 are put at $800 million.

- Newport News' capital improvements program identified almost $245 million in high priority projects, excluding water projects, over the next five years. Approximately $95 million is for transportation. The city estimates that it would need to incur $196 million in new indebtedness for meet these needs.

- Chesapeake estimates its road needs at $700 million until the year 2000.

Similar reports were forthcoming from locality after locality in the Golden Crescent. An examination of the plethora of legislation introduced in recent sessions of the General Assembly requesting additional conditional zoning powers or the authority to impose impact fees for roads and other off-site capital improvements emphasize the need. The joint subcommittee finds that the shortfall between capital improvement needs for roads and other infrastructure and existing local resources and state assistance is not disputed. The issue then is what to do about it.

Joint Subcommittee Focus

The entire community traditionally has borne the cost of public improvements out of general fund revenues and through the issuance of general obligation bonds in cases where appropriate, e.g. school construction. Revenue bonds in other instances relate the cost of improvements to those who will benefit, as in the case of water and sewer bonds supported by connection and user fees, or, in some instances, roads underwritten by tolls.

The proffer system has been used to directly enable new development to pay some of its costs in some localities, particularly those in Northern Virginia operating under the "old" conditional zoning provisions of § 15.1-491 of the Code of Virginia. More recently, special transportation and other taxing districts in limited instances have been authorized. During the course of its public hearings, the joint subcommittee also heard a myriad of local tax and fee proposals aimed at helping defray capital improvement costs.

Developers argue with some justification that development in the long run does help pay for itself. The local economy expands, jobs are created, and property, sales and other taxes are generated. The problem with this perspective is that it fails to address the heavy capital resources which the locality must expend at the outset to provide services to the new development. Traditional funding methods inevitably require the existing community to bear a disproportionate part of that burden.

The joint subcommittee at its initial meeting discussed and agreed to hear evidence as to the impact of development and rapid growth on the entire local public infrastructure, acknowledging that rapid growth places high burdens on the capital budgets of local governments for a range of activities.

As the study developed, and as we believe was the intent of House Joint Resolution No. 125, two topics became the primary focus:

- requiring new development to pay at least a part of the heavy up-front costs of capital improvements which can be attributed to the development itself.

- providing in particular a means by which road improvements may be financed.

We have not directly tried to address the entire range of public infrastructure problems, although we think that our recommendations will also help in this area by (i) freeing up capital funds that otherwise might have gone to transportation for other types of improvements and (ii) by allowing a wider range of growing localities the opportunity to use the more flexible proffer system now used in Northern Virginia to address other infrastructure concerns which often are more site-specific than roads.

RECOMMENDATION 1: ROAD IMPACT FEES FOR HIGH GROWTH LOCALITIES

The joint subcommittee recommends that certain localities in the Commonwealth which are experiencing high rates of growth be authorized to enact impact fee ordinances to assist in meeting the cost of road improvements necessitated by development caused by that growth. The proposed legislation may be found in the Appendix pages A22-27, and is explained below.

The Use of Impact Fees Nationally

The exact number of localities across the country using impact fees is not available, but several surveys have sampled national usage. An extensive 1985 survey by the Homer Hoyt Center for Land Economics and Real Estate of Florida State University reported that 58 percent of the cities and counties surveyed collected cash payments or fees for some capital improvements (footnote 4).

According to the Florida State survey, impact fees for road improvements are common, ranking only behind the provision of water and sewer lines in frequency of use. Approximately one-four of the localities which receive cash payments or fees report that they do so for roads. Impact fees are less often imposed for police and fire facilities, housing for low income, and solid waste facilities, and rarely imposed for school construction. Less than seven percent of the localities in the survey reported collecting fees for school facilities.

Most states have not specifically enacted a statewide impact fee authorization law. A majority of localities imposing fees seem to have done so under general zoning and subdivision authority and favorable judicial interpretation. Also to be borne in mind is the extent of home rule authority in many states which would act against the need for legislative action. Some state legislatures also have authorized fees for individual localities by special act. A Virginia locality would need specific legislative authorization to impose impact fees.

Some states are prominent for the extensive impact fee systems developed by some of their localities, including Florida, California, Colorado, and Oregon. Arizona by general law for several years has authorized impact fees. The joint subcommittee examined this statute but found it lacking in specific direction, especially in light of recent judicial decisions providing more specific guidelines. Of more relevance to the joint committee was the 1987 Texas act authorizing impact fees which was cited in testimony to the joint subcommittee by an expert in the field, Mr. Gus Bauman of the Washington firm of Beveridge and Diamond, as perhaps the best state model.

The Advantages of Impact Fees

The joint subcommittee's conclusion was that, while not having replaced the more longstanding exactions of land dedications and developer construction or installation of facilities, the impact fee approach is becoming increasingly popular and has a number of advantages to recommend it. Impact fees:

- Shift capital improvement costs to the development which gives rise to the need.
- Provide new facilities at the same time or as nearly thereafter as possible as development takes place.
- Replace uncertainty with certainty with regard to developer's costs and local government's revenue flow.
- Spell out the impacts of development openly and explicitly from the start through public hearings and clear statements of assumptions and plans.
- Apply where a change in zoning is not required and thus where negotiable exactions are less likely.

The Necessary Elements of an Impact Fee Ordinance

"Rational nexus" has emerged as the test by which the legality of an impact fee system is to be judged. Essentially, the rational nexus test requires that impact fees meet two standards.

- A reasonable connection must exist between growth from new development and the need for public facilities to serve that growth.
- A connection must exist between the expenditure of the funds collected through impact fees and a benefit to be received by the development which pays the fee.

The first standard allows the cost of public improvements necessitated at least in part by new development to be charged to that development. On the other hand, new development cannot be required to pay for new facilities which will only benefit existing development. In this sense, then, impact fees are prospective only and will not allow a locality to "catch up" on public improvements which should but have not been made.

In order to meet this standard, it is necessary to take into account the fact that new development may already have contributed to the existing facilities, or will be required to do so in the future. For instance, the property on which development will take place has paid property taxes in past years and owners of the developed property will pay taxes in the future. To the extent that these taxes have been or will continue to be used to pay for public improvements through general obligation debt retirement or in some other fashion, they should be taken into account.

In addition, it is possible that residents of the new development in the future may be making contributions towards the public improvements in ways other than impact fees. Consider, for example, gasoline taxes which may pay at least a partial share of the funding of road improvements.

An impact fee system will take these types of contributions and payments into account to ensure that development pays a fair share only of improvements directly attributable at least in part to it.

Likewise, an impact fee system should recognize the value of off-site construction or installation, dedications, and contributions which may have been made already by the developer to meet needs from the new development.

The second standard seeks to ensure that funds collected from an impact fee will be spent substantially for the benefit of those who pay the fee. However, the development paying the fee does not have to be the exclusive beneficiary of the facility which is to be constructed. A non-technical standard, "expected use," generally will suffice. The principle of benefit also requires that the facility will be accessible to the occupants of the new development. In actual practice, location is the linchpin of the second standard, and the approach to meeting this standard is to establish some service district or service range which will meet the "expected use" criterion.

The benefit principle also raises the matter of timing. For how long must feepayers wait for the facility for which they have paid? Facilities generally must be constructed within a reasonable period of time to meet the standard, and impact fees authorizations generally can ensure this standard best by requiring some reasonable time period within which the facilities must be constructed. In turn, an ordinance should provide for a refund of impact fees if the facilities are not constructed within that time.

Summary of the Road Impact Fee Proposal

The joint subcommittee's draft of legislation authorizing impact fees for road improvements is contained in the Appendix (A19-27). The following brief explanation of the draft will be useful.

Section 1 applies the legislation to rapidly growing localities of the state. The ten percent population growth threshold rounds off the state's overall estimated growth of 10.4 percent so far for the 1980's and is in the mid-range between the Department of Planning and Budget and United States Census Bureau estimates for the 1990-2000 period. Localities thus will be able to grow into eligibility in the future if rapid growth spreads to those areas. The subcommittee would substitute growth from 1980 to the most recent year for which population estimates are available from the Center for Public Service of the University of Virginia for the census data until the 1990 census figures are reported.

Section 2 requires eligible cities, counties, and towns to adopt ordinances which are in compliance with the act if they want to impose the impact fees. This will provide uniformity and ensure that each locality addresses the necessary legal standards. The definitions contained in the section are intended to ensure that impact fee systems are used to meet demand caused by new development.

Section 3 requires the locality to establish one or more service districts having clearly related traffic needs, and to spend impact fees collected in the district for that district. The benefits standard of the rational nexus test thus will be met. At the same time, it is neither necessary nor desirable that a service district be drawn so narrowly that it is exclusively for one particular road project, and the section makes it clear that related projects may be encompassed into one service district.

Section 4 requires a needs assessment which is essential to determining the allocations between existing and new development. It also leads to the development of a roads improvement plan for the service district.

Section 5 authorities adoption of an ordinance establishing a impact fee system and a schedule of fees.

Section 6 specifies that the amount of fees for a development will be determined at least by the time the site plan is approved, so that the developer knows from the outset the actual cost. The fees may be imposed at the time building permits or occupancy permits are issued. Actual payments may be either a lump sum or amortized over a fixed number of years. The time and method of paying the fees may be negotiated by the locality and the owner of the property. A way of calculating the maximum fee is provided.

Section 7 provides for various credits, as suggested above, which must be given against the impact fees.

Section 8 requires that the needs assessment and road improvement plan be updated every two years.

Section 9 requires that a separate fund or account be established for the service area so as to meet the benefits requirements.

Section 10 provides for refunds of fees if projects are not completed within six years if included in a county six year secondary road plan or ten years otherwise. It also provides for a refund if the locality overestimated costs by more than 15 percent.

RECOMMENDATION 2: EXPAND AUTHORITY TO USE THE "OLD" CONDITIONAL ZONING

The joint subcommittee also recommends that these same localities be authorized to exercise the "old-style" conditional zoning powers. In common terminology this style is referred to as the Northern Virginia proffer system.

Background on Conditional Zoning Statutes

Conditional zoning first was provided for certain localities, beginning in 1973, when §15.1-491 (a) of the Code of Virginia, setting out the permitted provisions in subdivision ordinances, was amended so that zoning ordinances could provide:

> "(F) or the adoption, . . . as a part of an amendment to the zoning map of reasonable conditions, in addition to the regulations provided for the zoning district by the ordinance, when such conditions shall have been proffered in writing, in advance of the public hearing before the governing body . . . by the owner of the property which is the subject of the proposed zoning map amendment."

The conditional zoning language initially applied only to Fairfax County by reference to the urban county executive form of government. In following sessions the section was extended to presently include Arlington, Loudoun, and Prince William counties, the cities surrounded by those counties, and the towns within the counties. The counties east of the Chesapeake Bay, namely Accomac and Northampton, were added in 1976

The House Committee on Counties, Cities, and Towns in 1977 conducted a study as a result of the spread of conditional zoning in this manner and the growing lack of uniformity as more localities sought to be included. The result was 1978 legislation which added §§ 15.1-491.1 through 15.1-491.6 to the Code of Virginia. This legislation usually is called the "statewide" or "limited" conditional zoning act. It controls all counties, cities, and towns other than those authorized to operate under § 15.1-491(a).

The act is "limited" by the seven specific requirements found in §15.1-491.2 which are not found in § 15.1-491(a). They include:

- The rezoning itself must give rise to the need for the conditions.
- Such conditions must have a reasonable relation to the rezoning.
- Conditions shall not include a cash contribution to the county or municipality.
- Conditions shall not include mandatory dedication of real or personal property for open space, parks, schools, fire departments or other public facilities not specifically provided for in § 15.1-466 (f) (permitted provisions of sub-division ordinances).
- Conditions shall not include payment for or construction of off-site improvements except those provided for in § 15.1-466 (j) (sewerage, drainage, and water facilities)

- No condition shall be proffered that is not related to the physical development or physical operation of the property

- All conditions must be in conformity with the comprehensive plan.

The underlined portions of these provisions are the main differences between the "old" and "new" conditional zoning provisions. The greater flexibility in the nature and location of conditions proffered by a developer under the "old" style is the reason for the increasing number of localities wishing to be included in §15.1-491. The Governor's Commission on Transportation in the Twenty-First Century, in its Phase II Report of December 1987, recommended that the conditional zoning statutes be amended to allow all localities to proffer for the cost of off-site road improvements.

The Benefits of the Proffer System

The localities now included within the "old" conditional zoning statute were unwavering in their support for the powers it offers. According to their testimony, given a choice between impact fee authority and elimination of their conditional zoning authority, they would choose to retain conditional zoning.

From the testimony offered at our public hearings and a review of the literature on development exactions, it is clear that a system of proffers offers advantages which may not be provided by other methods. The proffer system offers:

- Flexibility in resolving site specific problems which may not be easily addressed under general "formula" approaches to developer contributions.

- Significant savings in time, as in direct land dedications or developer construction of facilities rather than public acquisition or construction.

- Significant reductions in litigation over land use and development.

The Proffer System in Practice

During the course of public hearings the development community expressed dissatisfaction with the manner in which conditional zoning, particularly the old style, was being conducted. Sentiment was expressed that the "unlimited" conditional zoning should be curtailed to bring it more in line with the newer statute. At its last meeting, however, the joint subcommittee received a communication from a joint task force of Northern Virginia local governments, developers, and other interested parties which the subcommittee had asked to

be formed. The task force indicated agreement that the several parties would seek to work out their problems within the individual localities. The joint subcommittee therefore recommends no change at present in the specific details of conditional zoning and the proffer system as presently found in Title 15.1 of the Code of Virginia.

ADDITIONAL TAXING POWERS FOR LOCAL GOVERNMENT

The joint subcommittee received proposals for a wide range of local tax options to produce additional revenue for road and other capital improvement costs in the course of its public hearings.

The joint subcommittee recognizes that the enabling legislation it recommends will not meet the total financial needs for capital improvement funds for high growth localities. However, in the spirit of House Joint Resolution No. 125, the joint subcommittee has focused its attention on the specific task of relating new development to its direct capital improvement costs.

The joint subcommittee therefore voted not to support most of the tax proposals, which included among others a one-half cent local sales tax option and increased local automobile decal fees. The joint subcommittee was evenly divided on a proposal for a one percent transfer tax on all real estate transfers and a local option recordation tax.

Finally, the joint subcommittee at its final meeting by a divided vote did endorse a local option five percent gasoline tax proposal. (Mr. Cranwell and Mr. Jackson were opposed, and Mr. Heischober was absent.) The joint subcommittee presumed that such a bill would be introduced and would not need to be a part of its legislative package.

ACKNOWLEDGEMENTS

Active involvement of local governments and the development and business community was sought in the study process. The joint subcommittee appreciates the efforts of the Virginia Municipal League, the Virginia Association of Counties, the Virginia Chapter of the American Planning Association, the Rural Planning Caucus, and the officials and staff of numerous local governments and planning district commissions throughout the state for their efforts to document and present the dimensions of growth and development in Virginia and the costs of that development. The contributions of many organizations on the legal and economic concerns of the development and general business communities is gratefully acknowledged, particularly those of the Virginia Home Builders Association, the Northern Virginia Building Industries Association and the Virginia Association of Realtors. In addition, valuable testimony was offered by many private citizens, individual developers, and local and regional associations at all public hearings.

FOOTNOTES

1. This description of Virginia's population growth is from Julia H. Martin, Estimates of the Population of Virginia Counties and Cities: 1986 and 1987 (Center for Public Service, University of Virginia, September 1988), pages 1 - 6. The data, and that cited in footnote 2, were incorporated into the Virginia Department of Transportation presentation cited in footnote 3.

2. Donald P. Lillywhite and Larry E. Robinson, with Julia A. Henderson, Virginia Population Projections 2000 (Department of Planning and Budget, October 1986).

3. Virginia Department of Transportation, "Report on Growth of Population and Vehicle Miles of Travel," Staff Presentation to HJR 125 Subcommittee Meeting, December 19, 1988.

4. James E. Frank and Robert M. Rhodes (eds.), Development Exactions, Sponsored by Homer Hoyt Center for Land Economics and Real Estate, Florida State University (Washington, D.C.: American Planning Association, 1987).

APPENDIX

HJR 125
SUBCOMMITTEE MEETING

DECEMBER 19, 1988

REPORT ON GROWTH OF
POPULATION and VEHICLE MILES OF TRAVEL

PRESENTATION BY

VIRGINIA DEPARTMENT OF TRANSPORTATION STAFF

TABLE 1-B

POPULATION - PERCENT OF CHANGE

COUNTIES	1980 POPULATION *	1987 POPULATION (PROVISIONAL) *	1980-87 % CHANGE	1990 POPULATION **	2000 POPULATION **	1990-2000 % CHANGE
GLOUCESTER	20,107	29,400	46.2%	30,000	37,500	25.0%
STAFFORD	40,470	53,200	31.5%	56,700	70,400	24.2%
PRINCE WILLIAM	144,636	184,700	27.7%	192,000	248,000	29.2%
SPOTSYLVANIA	31,995	40,600	26.9%	47,000	60,000	27.7%
CHESTERFIELD	141,372	179,100	26.7%	202,000	254,900	26.2%
LOUDOUN	57,427	71,500	24.5%	72,900	94,000	28.9%
FAIRFAX	595,754	739,300	24.1%	737,300	810,000	9.9%
FAUQUIER	35,889	44,400	23.7%	45,300	52,200	15.2%
NEW KENT	8,781	10,700	21.9%	11,700	13,600	16.2%
JAMES CITY	22,339	27,200	21.8%	30,900	36,600	18.4%
GREENE	7,625	8,900	16.7%	9,700	11,400	17.5%
BEDFORD	34,927	40,600	16.2%	44,000	51,500	17.0%
ISLE OF WIGHT	21,603	25,100	16.2%	24,500	26,200	6.9%
YORK	35,463	41,100	15.9%	44,000	49,600	12.7%
KING GEORGE	10,543	12,200	15.7%	12,800	15,000	17.2%
WARREN	21,200	24,400	15.1%	24,700	26,700	8.1%
FLUVANNA	10,244	11,700	14.2%	11,700	13,000	11.1%
FRANKLIN	35,740	40,200	12.5%	39,800	42,900	7.8%
ORANGE	18,063	20,300	12.4%	20,900	22,900	9.6%
HANOVER	50,398	56,400	11.9%	60,500	69,600	15.0%
FREDERICK	34,150	38,200	11.9%	40,800	46,000	12.7%
MIDDLESEX	7,719	8,600	11.4%	9,000	9,900	10.0%
ALBEMARLE	55,783	61,700	10.6%	69,000	81,300	17.8%
HENRICO	180,735	199,900	10.6%	208,000	228,000	9.6%
GOOCHLAND	11,761	13,000	10.5%	13,800	15,400	11.6%
CULPEPER	22,620	25,000	10.5%	25,400	27,400	7.9%
LOUISA	17,825	19,700	10.5%	20,500	22,300	8.8%
KING WILLIAM	9,334	10,300	10.3%	11,000	12,000	9.1%
MATHEWS	7,995	8,800	10.1%	9,500	10,500	10.5%
LANCASTER	10,129	11,100	9.6%	12,000	13,300	10.8%
RICHMOND	6,952	7,600	9.3%	7,400	7,700	4.1%
CAROLINE	17,904	19,300	7.8%	20,600	22,700	10.2%
CLARKE	9,965	10,700	7.4%	10,900	11,700	7.3%
BUCKINGHAM	11,751	12,600	7.2%	12,600	13,000	3.2%
PRINCE EDWARD	16,456	17,600	7.0%	18,400	26,300	10.3%
BOTETOURT	23,270	24,800	6.6%	25,900	27,500	6.2%
MADISON	10,232	10,900	6.5%	11,200	12,000	7.1%
CRAIG	3,948	4,200	6.4%	4,400	4,700	6.8%
WESTMORELAND	14,041	14,900	6.1%	14,600	15,200	4.1%
AUGUSTA	47,572	50,400	5.9%	52,200	56,200	7.7%
SURRY	6,046	6,400	5.9%	6,400	6,600	3.1%
ROCKINGHAM	52,054	55,100	5.9%	57,800	63,000	9.0%
SHENANDOAH	27,559	29,100	5.6%	31,000	33,300	7.4%
KING AND QUEEN	5,968	6,300	5.6%	6,700	7,200	7.5%
RAPPAHANNOCK	6,093	6,400	5.0%	6,300	6,500	3.2%
PAGE	19,401	20,300	4.6%	21,400	22,600	5.6%
MONTGOMERY	63,285	66,200	4.6%	70,500	78,000	10.6%
ARLINGTON	152,599	159,100	4.3%	156,300	160,200	2.5%
CUMBERLAND	7,881	8,200	4.0%	8,600	9,300	8.1%
APPOMATTOX	11,971	12,400	3.6%	13,300	14,200	6.8%
CAMPBELL	45,424	47,000	3.5%	50,500	53,500	5.9%

TABLE 1-B

POPULATION - PERCENT OF CHANGE

COUNTIES	1980 POPULATION *	1987 POPULATION (PROVISIONAL) *	1980-87 % CHANGE	1990 POPULATION **	2000 POPULATION **	1990-2000 % CHANGE
ROANOKE	72,945	75,400	3.4%	81,100	88,700	9.4%
POWHATAN	13,062	13,500	3.4%	16,000	18,900	18.1%
ACCOMACK	31,268	32,300	3.3%	32,400	32,800	1.2%
NELSON	12,204	12,600	3.2%	12,600	12,900	2.4%
FLOYD	11,563	11,900	2.9%	12,700	13,400	5.5%
NORTHUMBERLAND	9,828	10,100	2.8%	10,400	11,000	5.8%
BLAND	6,349	6,500	2.4%	7,100	7,500	5.6%
BRUNSWICK	15,632	16,000	2.4%	16,300	16,600	1.8%
AMELIA	8,405	8,600	2.3%	9,200	10,200	10.9%
NOTTOWAY	14,666	15,000	2.3%	15,100	15,500	2.6%
WASHINGTON	46,487	47,400	2.0%	50,500	54,000	6.9%
ROCKBRIDGE	17,724	18,000	1.6%	19,000	19,800	4.2%
MECKLENBURG	29,444	29,800	1.2%	30,100	30,500	1.3%
PRINCE GEORGE	25,733	26,000	1.0%	29,000	31,600	9.0%
LEE	25,956	26,200	0.9%	28,900	31,600	9.3%
LUNENBURG	12,124	12,200	0.6%	12,300	12,500	1.6%
SCOTT	25,068	25,200	0.5%	24,200	24,800	2.3%
CARROLL	27,270	27,400	0.5%	29,200	31,000	6.2%
HENRY	57,654	57,900	0.4%	58,000	56,500	0.9%
ESSEX	8,864	8,900	0.4%	9,300	9,700	4.3%
WYTHE	25,522	25,600	0.3%	27,100	28,100	3.7%
PATRICK	17,647	17,700	0.3%	18,400	18,900	2.7%
RUSSELL	31,761	31,800	0.1%	34,800	37,700	8.3%
WISE	43,863	43,900	0.1%	49,000	53,600	9.4%
AMHERST	29,122	29,000	-0.4%	30,300	31,500	4.0%
SOUTHAMPTON	18,115	18,000	-0.6%	18,400	18,600	1.1%
NORTHAMPTON	14,625	14,500	-0.9%	14,800	14,900	0.7%
SMYTH	33,366	33,000	-1.1%	34,600	35,500	2.6%
DICKENSON	19,806	19,500	-1.5%	21,800	23,800	9.2%
PITTSYLVANIA	66,147	65,100	-1.6%	68,800	70,600	2.6%
GRAYSON	16,579	16,300	-1.7%	17,300	17,700	2.3%
TAZEWELL	50,511	49,400	-2.2%	54,400	58,100	6.8%
CHARLES CITY	6,692	6,500	-2.9%	6,900	7,300	5.8%
PULASKI	35,229	34,100	-3.2%	36,800	37,900	3.0%
GILES	17,810	17,200	-3.4%	18,400	18,800	2.2%
HALIFAX	30,599	29,500	-3.6%	30,800	31,000	0.6%
CHARLOTTE	12,266	11,800	-3.8%	11,400	11,300	-0.9%
SUSSEX	10,874	10,400	-4.4%	9,900	9,500	-4.0%
ALLEGHANY	14,333	13,500	-5.8%	14,500	15,100	2.0%
GREENSVILLE	10,903	10,200	-6.4%	10,800	11,400	5.6%
BUCHANAN	37,989	35,400	-6.8%	40,100	42,400	5.7%
DINWIDDIE	22,602	21,000	-7.1%	21,400	22,300	4.2%
HIGHLAND	2,937	2,600	-11.5%	3,200	3,400	6.3%
BATH	5,860	5,000	-14.7%	5,500	5,600	1.8%

TABLE 1-B

POPULATION - PERCENT OF CHANGE

CITIES	1980 POPULATION *	1987 POPULATION (PROVISIONAL) *	1980-87 % CHANGE	1990 POPULATION **	2000 POPULATION **	1990-2000 % CHANGE
ALEXANDRIA	103,217	107,900	4.5%	109,700	113,400	3.4%
BEDFORD	5,991	6,200	3.5%	6,600	6,900	4.5%
BRISTOL	19,042	18,000	-5.5%	18,300	18,000	-1.6%
BUENA VISTA	6,904	6,400	-7.3%	7,000	7,200	2.9%
CHARLOTTESVILLE	39,916	41,100	3.0%	42,000	43,400	3.3%
CHESAPEAKE	114,486	141,500	23.6%	143,000	163,000	14.0%
CLIFTON FORGE	5,046	5,100	1.1%	5,200	5,300	1.9%
COLONIAL HEIGHTS	16,509	17,300	4.8%	17,600	18,400	4.5%
COVINGTON	9,063	7,700	-15.0%	7,500	7,700	2.7%
DANVILLE	45,642	44,100	-3.4%	44,900	44,900	0.0%
EMPORIA	4,840	4,600	-5.0%	4,600	4,500	-2.2%
FAIRFAX	20,537	20,400	-0.7%	21,000	21,500	2.4%
FALLS CHURCH	9,515	9,800	3.0%	9,700	9,900	2.1%
FRANKLIN	7,924	7,800	-1.6%	8,000	8,200	2.5%
FREDERICKSBURG	17,742	20,700	16.5%	20,800	22,800	9.6%
GALAX	6,524	6,700	2.7%	7,200	7,500	4.2%
HAMPTON	122,617	128,000	4.4%	128,700	132,500	3.0%
HARRISONBURG	24,655	27,200	10.3%	28,700	31,500	9.8%
HOPEWELL	23,397	24,200	3.4%	24,900	25,600	2.8%
LEXINGTON	7,292	6,800	-6.7%	6,700	6,600	-1.5%
LYNCHBURG	66,743	66,700	-0.1%	70,600	73,500	3.8%
MANASSAS	15,505	21,200	36.7%	21,500	27,200	26.5%
MANASSAS PARK	6,524	7,200	10.4%	7,200	7,700	6.9%
MARTINSVILLE	18,149	18,100	-0.3%	19,400	19,800	2.1%
NEWPORT NEWS	144,903	162,800	12.4%	165,100	176,600	7.0%
NORFOLK	266,979	280,800	5.2%	274,700	280,000	1.9%
NORTON	4,757	4,500	-5.4%	5,000	5,200	4.0%
PETERSBURG	41,055	41,300	0.6%	39,400	38,800	-1.5%
POQUOSON	8,726	10,900	24.9%	11,700	14,300	22.2%
PORTSMOUTH	104,577	110,100	5.3%	114,800	117,100	2.0%
RADFORD	13,456	13,700	1.8%	14,300	14,800	3.5%
RICHMOND	219,214	216,600	-1.2%	214,300	212,700	-0.7%
ROANOKE	100,220	100,100	-0.1%	100,000	100,000	0.0%
SALEM	23,958	23,800	-0.7%	24,800	25,300	2.0%
SOUTH BOSTON	7,093	7,000	-1.3%	7,500	7,600	1.3%
STAUNTON	24,777	24,400	-1.5%	25,000	25,400	1.6%
SUFFOLK	47,621	52,200	9.6%	55,500	64,500	16.2%
VIRGINIA BEACH	262,199	350,100	33.5%	362,600	426,200	17.5%
WAYNESBORO	18,563	18,100	-2.5%	18,500	18,300	-1.1%
WILLIAMSBURG	10,294	12,000	16.6%	11,400	12,600	10.5%
WINCHESTER	20,217	22,100	9.3%	21,600	22,600	4.6%

SOURCES:

* CENTER FOR PUBLIC SERVICE
UNIVERSITY OF VIRGINIA - SEPT. 1988

** VIRGINIA POPULATION PROJECTIONS 2000
DEPARTMENT OF PLANNING & BUDGET - OCT. 1986

TABLE 2-B

DAILY VEHICLE MILES OF TRAVEL - PERCENT OF CHANGE

COUNTY	DVMT YEAR 1980	DVMT YEAR 1987	1980-87 % CHANGE	DVMT YEAR 1990	DVMT YEAR 2000	1990-2000 % CHANGE
GLOUCESTER	478,364	861,368	80.1%	1,025,510	1,572,650	53.4%
WARREN	267,843	479,255	78.9%	569,858	871,868	53.0%
LOUDOUN	959,876	1,703,144	77.4%	2,021,684	3,083,484	52.5%
MIDDLESEX	226,110	386,529	70.9%	455,277	684,437	50.3%
MATHEWS	142,671	239,102	67.6%	280,427	418,177	49.1%
PRINCE WILLIAM	2,574,384	4,034,010	56.7%	4,659,561	6,744,731	44.8%
BOTETOURT	731,221	1,140,943	56.0%	1,316,536	1,901,846	44.5%
CHARLES CITY	127,962	199,478	55.9%	230,126	332,286	44.4%
CARROLL	516,712	784,383	51.8%	899,097	1,281,477	42.5%
FAUQUIER	1,009,086	1,518,614	50.5%	1,736,981	2,464,871	41.9%
NANSEMOND	965,225	1,450,697	50.3%	1,658,753	2,352,273	41.8%
CHESTERFIELD	2,653,370	3,897,947	46.9%	4,431,335	6,209,295	40.1%
YORK	817,728	1,196,921	46.4%	1,359,431	1,901,131	39.8%
WYTHE	655,256	954,727	45.7%	1,083,070	1,510,880	39.5%
CULPEPER	423,247	615,566	45.4%	697,988	972,728	39.4%
FAIRFAX	11,060,459	16,061,694	45.2%	18,205,080	25,349,700	39.2%
ALLEGHANY	371,922	538,511	44.8%	609,305	847,885	39.0%
ISLE OF WIGHT	583,254	837,648	43.6%	946,671	1,310,081	38.4%
JAMES CITY	603,986	865,326	43.3%	977,325	1,350,655	38.2%
LOUISA	533,479	756,590	41.8%	852,206	1,170,926	37.4%
HANOVER	1,547,931	2,195,246	41.8%	2,472,665	3,397,395	37.4%
KING GEORGE	319,207	452,448	41.7%	508,121	697,031	37.2%
ALBERMARLE	1,476,943	2,088,174	41.4%	2,350,128	3,223,308	37.2%
ARLINGTON	2,301,584	3,251,087	41.3%	3,658,013	5,014,433	37.1%
ROCKBRIDGE	843,889	1,184,956	40.4%	1,331,125	1,818,355	36.6%
POWHATAN	256,245	351,968	37.4%	392,990	529,730	34.8%
NOTTOWAY	263,287	359,196	36.4%	400,296	537,296	34.2%
ORANGE	384,019	522,987	36.2%	582,543	781,063	34.1%
PRINCE GEORGE	572,208	775,878	35.6%	863,163	1,154,113	33.7%
ESSEX	275,203	372,425	35.3%	414,089	552,969	33.5%
FREDERICK	1,063,434	1,438,893	35.3%	1,599,801	2,136,161	33.5%
SHENANDOAH	793,446	1,060,159	33.6%	1,174,462	1,555,472	32.4%
GREENE	186,254	248,065	33.2%	274,552	362,842	32.2%
BLAND	287,616	381,403	32.6%	421,594	555,564	31.8%
MADISON	274,775	364,305	32.6%	402,672	530,562	31.8%
SUSSEX	524,013	693,868	32.4%	766,663	1,009,313	31.7%
BEDFORD	787,340	1,042,530	32.4%	1,151,895	1,516,445	31.6%
CLARKE	286,908	379,490	32.3%	419,165	551,415	31.6%
NEW KENT	619,806	817,373	31.9%	902,042	1,184,272	31.3%
GOOCHLAND	564,821	737,549	30.6%	811,574	1,058,324	30.4%
WASHINGTON	979,180	1,278,421	30.6%	1,406,665	1,834,145	30.4%
DICKERSON	297,881	387,632	30.1%	426,095	554,305	30.1%
SCOTT	474,260	616,301	30.0%	677,198	880,188	30.0%
FRANKLIN	720,578	935,765	29.9%	1,027,995	1,335,385	29.9%
STAFFORD	1,292,558	1,677,465	29.8%	1,842,423	2,392,283	29.8%
RAPPAHANNOCK	167,161	215,649	29.0%	236,427	305,687	29.3%
ROANOKE	1,415,358	1,821,237	28.7%	1,995,183	2,575,003	29.1%
CAROLINE	939,305	1,206,355	28.4%	1,320,802	1,702,292	28.9%
GRAYSON	250,822	322,026	28.4%	352,542	454,262	28.9%
GREENSVILLE	445,041	570,564	28.2%	572,619	5,794,769	1.2%
CUMBERLAND	136,474	174,846		191,289	246,099	28.7%

TABLE 2-B

DAILY VEHICLE MILES OF TRAVEL - PERCENT OF CHANGE

COUNTY	DVMT YEAR 1980	DVMT YEAR 1987	1980-87 % CHANGE	DVMT YEAR 1990	DVMT YEAR 2000	1990-2000 % CHANGE
KING WILLIAM	184,364	235,924	28.0%	258,019	331,669	28.5%
PRINCE EDWARD	332,850	425,932	28.0%	465,823	598,793	28.5%
SURRY	157,307	200,771	27.6%	219,395	281,475	28.3%
PITTSYLVANIA	1,120,580	1,429,736	27.6%	1,562,231	2,003,881	28.3%
SMYTH	550,955	700,607	27.2%	764,741	978,521	28.0%
PAGE	246,343	313,166	27.1%	341,801	437,251	27.9%
DINWIDDIE	679,660	856,933	26.1%	932,905	1,186,145	27.1%
MONTGOMERY	979,129	1,234,365	26.1%	1,343,751	1,708,371	27.1%
WISE	693,099	871,941	25.8%	948,585	1,204,065	26.9%
SPOTSYLVANIA	1,125,760	1,415,740	25.8%	1,540,015	1,954,265	26.9%
BRUNSWICK	520,875	653,395	25.4%	710,188	899,498	26.7%
AMELIA	242,695	303,976	25.3%	330,238	417,778	26.5%
NELSON	324,469	406,342	25.2%	441,430	558,390	26.5%
LEE	413,144	514,188	24.5%	557,490	701,830	25.9%
CAMPBELL	954,184	1,185,829	24.3%	1,295,102	1,616,012	25.7%
HENRICO	4,307,572	5,333,330	23.8%	5,772,938	7,238,298	25.4%
FLOYD	194,056	240,260	23.8%	260,060	326,060	25.4%
FLUVANNA	179,963	222,723	23.8%	241,047	302,127	25.3%
GILES	329,368	404,779	22.9%	437,095	544,815	24.6%
SOUTHAMPTON	559,448	681,264	21.8%	733,470	907,490	23.7%
AMHERST	547,551	665,246	21.5%	715,685	883,815	23.5%
TAZEWELL	790,671	960,572	21.5%	1,033,385	1,276,095	23.5%
APPOMATTOX	292,468	353,791	21.0%	380,071	467,671	23.0%
AUGUSTA	1,681,400	2,026,086	20.5%	2,173,806	2,666,206	22.7%
ACCOMACK	756,663	910,664	20.4%	976,661	1,196,651	22.5%
HALIFAX	727,308	873,027	20.0%	935,475	1,143,635	22.3%
PULASKI	676,549	809,586	19.7%	866,601	1,056,651	21.9%
NORTHAMPTON	332,875	397,924	19.5%	425,800	518,720	21.8%
RUSSELL	619,614	736,529	18.9%	786,632	953,642	21.2%
KING & QUEEN	169,817	201,697	18.8%	215,356	260,886	21.1%
MECKLENBURG	661,903	782,098	18.2%	833,608	1,005,308	20.6%
LUNENBURG	190,966	224,272	17.4%	238,543	286,113	19.9%
CHARLOTTE	315,570	369,897	17.2%	393,177	470,777	19.7%
CRAIG	70,381	81,193	15.4%	85,825	101,265	18.0%
PATRICK	307,302	351,240	14.3%	370,068	432,828	17.0%
HENRY	1,015,597	1,157,693	14.0%	1,218,590	1,421,580	16.7%
BUCKINGHAM	306,871	344,499	12.3%	360,621	414,361	14.9%
BUCHANAN	706,030	760,029	7.6%	783,171	860,311	9.8%
ROCKINGHAM	1,401,785	1,455,869	3.9%	1,479,047	1,556,307	5.2%
LANCASTER	237,542	243,626	2.6%	246,230	254,910	3.5%
HIGHLAND	90,895	88,296	-2.9%	88,335	88,465	0.1%
RICHMOND	227,775	219,171	-3.8%	221,523	229,383	3.5%
WESTMORELAND	286,941	274,424	-4.4%	275,812	279,572	1.4%
BATH	159,776	148,754	-6.9%	148,754	148,754	0.0%
NORTHUMBERLAND	259,729	240,046	-7.6%	243,586	255,386	4.8%
TOTALS	73,379,442	98,753,144		109,606,088	150,997,868	

VIRGINIA MUNICIPAL LEAGUE
PRESENTATION TO

HJR 125 SUBCOMMITTEE
STUDYING
OFF-SITE ROAD IMPROVEMENTS,
LOCAL ZONING AND SUBDIVISION REGULATION AUTHORITY
AND THE IMPACT OF LAND DEVELOPMENT ON INFRASTRUCTURE

ROBERT FEILD
VIRGINIA MUNICIPAL LEAGUE

AUGUST 31, 1988

GENERAL CHARACTERISTICS

	Current Population	Estimated Annual Growth in Population over Next Five Years	Density (Pop/Sq. Mi.)
Chesapeake	149,399	3,137 (2%)	420
Chesterfield	191,000	7,150 (4%)	428
Fairfax	704,800	16,040 (2%)	1,941
Frederick	41,000	1,100 (3%)	94
Gloucester	29,500	1,000 (3%)	131
Roanoke	85,640	1,700 (2%)	341
Stafford	60,000	3,600 (6%)	278
Virginia Beach	379,900	9,600 (3%)	1,472

Population in Survey Localities ranges from 29,500 to 704,800, with growth rates ranging from 2% to 6%. Density ranges from 94 persons per square mile to 1,941 per square mile.

RESIDENTIAL INFORMATION

	Average Value New Home and Lot	Average Family Size	Average Tax Revenue Per Family
Chesapeake	$112,000	3.01	$1,350
Chesterfield	$ 60,000	2.75	$ 624
Fairfax	$134,000	2.65	$2,284
Frederick	$ 75,000	2.50	$ 712
Gloucester	$ 68,000	2.80	$ 650
Roanoke	$ 72,000	2.76	$1,800
Stafford	$100,000	3.00	$1,340
Virginia Beach	$100,560	2.85	$1,639

Family size in the Survey Localities ranges from 2.5 to 3.01. The average price of a home in these localities ranges from $60,000 to $134,000. The local taxes generated from each residence ranges from $624 to $2,284.

ROAD EXPENDITURES

	Total Cost of All Unpaved Road Projects FY 1987-88 (% Local)	Total Cost of All Secondary Road Projects FY 1987-88
Chesapeake	None	$ 1,625,000
Chesterfield	$ 140,000 (50%)	$ 5,000,000
Fairfax	$ 60,436 (0%)	$47,670,000[1]
Frederick	N/A	N/A
Gloucester	$ 200,000 (0%)	$ 600,000
Roanoke	$ 233,745 (0%)	$ 1,313,409
Stafford	$ 481,000 (22%)	$ 1,765,000
Virginia Beach	[2]See Comments Below.	

[1] Of Fairfax's $47,670,000 cost for all secondary road projects, $19,500,000 was from State funds (VDOT); $15,760,000 was from County Bond Expenditure; and $12,410,000 was encumbered County Bond monies.

[2] Virginia Beach comments that "Nearly all road construction paid for by the City of Virginia Beach is performed on roads designated by the Virginia Department of Transportation as either "Major Arterials" or "Minor Arterials". The City's cost for this work is programmed at a cost of nearly $250 million over the next five years. This funding will provide work on approximately one-half of the roads identified on the City's "backlog report" as already being over capacity."

The total funding in 1987-88 for Unpaved Roads projects in the survey localities ranged from $60,000 to $481,000. The total funding in 1987-88 for Secondary Roads projects ranged from $600,000 to $47,670,000.

ROAD CONSTRUCTION COSTS

	Cost Per Mile Most Recent Unpaved Road Project	Cost Per Mile Most Recent Secondary Road Project
Chesapeake	$145,000	$3,100,000
Chesterfield	$500,000	$1,000,000
Fairfax	$132,000	$2,837,000
Frederick	N/A	N/A
Gloucester	$120,000	$ 400,000
Roanoke	$247,800	$ 485,990
Stafford	$310,000	$2,500,000
Virginia Beach	N/A	N/A

For the survey localities, the cost of the most recently completed unpaved road project ranged from $120,000 per mile to $500,000 per mile. The cost of the most recently completed secondary road project ranged from $400,000 to $2,837,000.

LOCAL ROAD NEEDS VS. VDOT AVAILABLE FUNDING
(in millions of dollars)

	Secondary Road Needs Identified for COT-21		Funds Available from VDOT FY1987-88 - FY1996-97[1]
	Collectors Arterials, and Other Paved Roads	Unpaved Roads	
Chesterfield	$ 67.6	$ 4.9	$ 60.0
Fairfax	$329.0	$ 8.6	$224.7
Frederick	$ 16.0	$38.3	$ 19.8
Gloucester	$ 7.9	$10.1	$ 12.3
Roanoke	$ 22.4	$ 3.0	$ 24.1
Stafford	$ 30.7	$ 7 6	$ 19.0

[1] Funds available represent actual amounts for FY88 and FY89; VDOT projections for FY90 - FY94; and VML estimates for FY95 - FY97 (based on FY88 - FY94).

UTILITIES CAPITAL COSTS

	Total Local Wastewater Capital Costs Past Five Years	Total Local Water Capital Costs Past Five Years
Chesapeake	$128,000,000*	$ 14,772,307
Chesterfield	$ 16,500,000	$ 36,000,000
Fairfax	$121,700,000	$ 20,000,000
Frederick	N/A	N/A
Gloucester	$ 1,120,000	$ 1,846,000
Roanoke	$ 3,500,000	$ 7,000,000
Stafford	$13,150,000**	$ 4,131,000
Virginia Beach	N/A	$ 17,722,000

* Chesapeake's wastewater treatment is handled by the Hampton Roads Sanitation district. The $128,000,000 is reflective of the new treatment plants built by the HRSD which handle mostly Chesapeake wastewater treatment needs.

** Stafford's costs for wastewater and water capital facilities are for FY1987-88 and FY1988-89. Stafford estimates that the County will borrow $30,000,000 over the next five years for water and sewer treatment plant expansions.

The capital costs for wastewater facilities in the survey localities range from $1,120,000 to $128,000,000 per locality. For water facilities, the capital costs range from $1,846,000 to $36,000,000.

UTILITY COSTS

	Wastewater Annual Operating Costs	Water Annual Operating Costs	Solid Waste Annual Operating Costs
Chesapeake	$24 per person	$60 per person	$40 per person
Chesterfield	$61 per person	$45 per person	$12 per person
Fairfax	$33 per person	$30 per person	N/A
Frederick	N/A	N/A	$19 per person
Gloucester	$310 per person	$192 per person	$65 per person
Roanoke	$66 per person	$78 per person	$2 per person
Stafford	$77 per person	$51 per person	$8.50 per person
Virginia Beach	N/A	$52 per person	$23 per person

Wastewater Annual Operating Costs range from $24 to $310 per person; Water Annual Operating Costs range from $30 to $192 per person; and Solid Waste Operating Costs range from $2 to $65 per person

---

	Sewer Tap Fees Per New Household
Chesapeake	$ 630 if installed by developer $1,790 if City constructed
Chesterfield	$2,500 installed by developer
Fairfax	$2,500
Frederick	$1,450
Gloucester	$1,200
Roanoke	$ 500
Stafford	$2,500
Virginia Beach	$ 450

EDUCATION INFORMATION

	Current Student Enrollment	Estimated Annual Growth in Enrollment Next Five Years	*Local* Cost of Education Per Pupil (Composite Index)
Chesapeake	27,123	700 (3%)	$2,645 (.39)
Chesterfield	40,435	2,034 (5%)	$2,617 (.45)
Fairfax	128,503	2,050 (2%)	$2,843 (.72)
Frederick	7,402	100 (1%)	$2,644 (.43)
Gloucester	5,550	240 (4%)	$2,682 (.46)
Roanoke	13,184	75 (1%)	$2,616 (.44)
Stafford	11,700	700 (6%)	$2,637 (.36)
Virginia Beach	67,524	4,033 (6%)	$2,618 (.45)

Local Cost of Education Per Pupil is the State-required local expenditure per pupil for FY1988-89. The composite index is the percentage of the required costs paid by the locality (excluding school construction costs, which are totally funded by the locality). Both figures are from Department of Education reports.

Many localities pay more than this required amount, due to a variety of factors, such as special population groups (foreign students) or local demand for a higher level of education. For example, Fairfax County and Gloucester County each pay 20% more per pupil than the required amount.

School enrollment in Survey Localities ranges from 5,550 to 128,503, with estimated annual enrollment increases ranging from 1% to 6%. Local cost of education per pupil ranges from $1,424 to $3,404.

SCHOOL CONSTRUCTION NEEDS

		Current Number Public Schools	New Schools Planned for Next Five Years
Chesapeake	Elementary	24	5 new; 4 additions
	Middle	6	1 renovation; 1 addition
	High	5	1 new; 2 additions
Chesterfield	Elementary	30	4 new
	Middle	9	1 new
	High	8	1 new
Fairfax	Elementary	119	12 new
	Middle	19	1 new
	High	19	0
	Secondary	3	1 new
Frederick	Elementary	6	3 new
	Middle	2	0
	High	1	0
Gloucester	Elementary	5	1 new
	Middle	1	1 new
	High	1	1 new
Roanoke	Elementary	17	0
	Middle	4	0
	High	5	0
Stafford*	Elementary	8	3 new
	Middle	4	0
	High	2	1 new
Virginia Beach	Elementary	49	7 new
	Middle	12	1 new
	High	8	2 new

Stafford estimates that the total programmed capital costs for school construction over the next five years is $64,000,000.

SCHOOL CONSTRUCTION COSTS ESTIMATED BY VML

	New Schools Planned for Next Five Years	
Chesapeake	5 new Elementary	$16,250,000
	1 new High	4,140,000
		$20,390,000
Chesterfield	4 new Elementary	$23,400,000
	1 new Middle	9,230,000
	1 new High	8,970,000
		$41,600,000
Fairfax	12 new Elementary	$62,790,000
	1 new Middle	5,715,500
	0 High	0
	1 new Secondary	5,554,500
		$74,060,000
Frederick	3 new Elementary	$ 8,775,000
	0 Middle	
	0 High	
Gloucester	1 new Elementary	$ 2,925,000
	1 new Middle	3,195,000
	1 new High	3,105,000
		$ 9,225,000
Roanoke	None	
Stafford	3 new Elementary	$15,600,000
	0 Middle	0
	1 new High	5,520,000
		$21,120,000
Virginia Beach	7 new Elementary	$40,950,000
	1 new Middle	9,230,000
	2 new High	17,940,000
		$68,120,000

COST ASSUMPTIONS

According to the Department of Education, Construction Costs during FY 1986-87 approximated:

Elementary Schools	$6,500 per pupil
Middle Schools	$7,100 per pupil
High Schools	$6,900 per pupil

Northern Virginia costs were approximately 15% higher than the rest of the State.

Capacity for elementary schools ranged from 450 to 900 pupils; capacity for middle and high schools ranged from 1,000 to 1,300 pupils.

According to VML/VACo survey, pupil projections for the next five years were:

	Five Year Increased Enrollment
Chesapeake	3,500
Chesterfield	10,170
Fairfax	10,250
Frederick	500
Gloucester	1,200
Stafford	3,500
Virginia Beach	20,165

VML Estimates of number of pupils per new school

Chesapeake: 500 @ Elementary School x $6,500 = $3,250,000
600 @ High School x $6,900 = $4,140,000

Chesterfield: 900 @ Elementary School x $6,500 = $5,850,000
1,300 @ Middle School x $7,100 = $9,230,000
1,300 @ High School X $6,900 = $8,970,000

Fairfax: 700 @ Elementary School x $7,475 = $5,232,500
700 @ Middle School x $8,165 = $5,715,500
700 @ Secondary School x $7,935 = $5,554,500

Frederick: 450 @ Elementary School x $6,500 = $2,925,000

Gloucester: 450 @ Elementary School x $6,500 = $2,925,000
450 @ Middle School x $7,100 = $3,195,000
450 @ High School x $6,900 = $3,105,000

Stafford: 800 @ Elementary School x $6,500 = $5,200,000
800 @ High School x $6,900 = $5,520,000

Virginia Beach:
900 @ Elementary School x $6,500 = $5,850,000
1,300 @ Middle School x $7,100 = $9,230,00
1,300 @ High School x $6,900 = $8,970,000

OPEN SPACE/COMMUNITY FACILITIES

	Open Space Available for Parks/ Recreation	Volunteer or Professional Fire/Rescue Service	Radial Area Served by Each Fire Station
Chesapeake	58,845 acres[1]	Professional Fire and EMS with volunteer supplement	20 sq. mi.
Chesterfield	2,000 acres	Professional and Volunteer Fire; Volunteer Rescue	32 sq. mi.
Fairfax	23,000 acres	Professional and Volunteer Fire/Rescue Service[2]	2.67 sq. mi.[2]
Frederick	N/A	Volunteer	N/A
Gloucester	15-18 acres	Volunteer	2.5-3.8 sq. mi.[3]
Roanoke	850 acres	Professional and Volunteer Fire/Rescue Service[4]	8-10 sq. mi.[4]
Stafford	1,150 acres	Volunteer[5]	29 sq. mi.
Virginia Beach	1,600 acres	Volunteer and Professional Fire Service; Volunteer Rescue[6]	15.2 sq. mi.

[1] Chesapeake's figures include 49,755 acres of the Great Dismal Swamp, and 3,200 acres of Lake Drummond.

[2] Fairfax has 35 stations on-line; 13 are owned by volunteer companies. These are staffed primarily with volunteers but must have at least 3 paid professionals per shift.

Fairfax has a county standard of 5-minute travel response time. This translates into an average of 2.67 miles that are travelled at the average speed of 32 miles per hour.

[3] Gloucester has two fire stations in the southern part of the County, each covering about 2.5 square miles. In the northern, rural part of the County, two stations cover 3.8 square miles each.

[4] Roanoke County has 47 paid professionals and 550 volunteers. The paid professionals man the stations during day-time hours. Each fire station serves an 8-10 square mile radius, with a goal of 5 square miles.

[5] Stafford County has 8 volunteer fire departments, and 5 volunteer rescue squads. In addition, the Fredericksburg Rescue Squad serves one-third of the County.

[6] Virginia Beach has 202 volunteer and 322 professional fire staff; and about 550 volunteer rescue staff. There are 11 rescue squads and 16 fire stations.

The average costs of a new fire station is $375,000. This is for a 5,000 square foot station, with average costs of $75/square foot. In Fairfax County, the most recently-built fire station cost $1,600,000. For more rural localities which rely heavily on volunteer squads, often the stations are built with private funds, or only partial local support.

SENATE BILL NO. ..... HOUSE BILL NO. .....

A BILL to amend and reenact § 15.1-491 of the Code of Virginia, and to amend the Code of Virginia by adding in Chapter 11 of Title 15.1 an article numbered 8.1, consisting of sections numbered 15.1-498.1 through 15.1-498.10, relating to permitted provisions in zoning ordinances and authorizing certain counties, cities and towns to impose impact fees for road improvements.

Be it enacted by the General Assembly of Virginia:

1. That § 15.1-491 of the Code of Virginia is amended and reenacted, and the Code of Virginia is amended by adding in Chapter 11 of Title 15.1 an article numbered 8.1, consisting of sections numbered 15.1-498.1 through 15.1-498.10, as follows:

§ 15.1-491. Permitted provisions in ordinances; amendments.--A zoning ordinance may include, among other things, reasonable regulations and provisions as to any or all of the following matters:

(a) For variances as defined in § 15.1-430 (p) or special exceptions as defined in § 15.1-430 (i) to the general regulations in any district in cases of unusual situations or to ease the transition from one district to another, or for buildings, structures or uses having special requirements, and for conditional zoning as defined in § 15.1-430 (q) ~~and for the adoption, in~~ .

In (i) counties, or towns, therein which have planning commissions, wherein the urban county executive form of government is in effect, ~~or in~~ (ii) a city completely surrounded by such a county, ~~or in~~ (iii) a county contiguous to any such county, ~~or in~~ (iv) a

city completely surrounded by such a contiguous county, ~~or in~~ (v) any town within such contiguous county, ~~and in the~~ (vi) counties east of the Chesapeake Bay or (vii) any county, city or town to whom Article 8.1 of this chapter is applicable, for the adoption as a part of an amendment to the zoning map of reasonable conditions, in addition to the regulations provided for the zoning district by the ordinance, when such conditions shall have been proffered in writing, in advance of the public hearing before the governing body required by § 15.1-493 by the owner of the property which is the subject of the proposed zoning map amendment. Once proffered and accepted as part of an amendment to the zoning ordinance, such conditions shall continue in full force and effect until a subsequent amendment changes the zoning on the property covered by such conditions; provided, however, that such conditions shall continue if the subsequent amendment is part of a comprehensive implementation of a new or substantially revised zoning ordinance.

(b) For the temporary application of the ordinance to any property coming into the territorial jurisdiction of the governing body by annexation or otherwise, subsequent to the adoption of the zoning ordinance, and pending the orderly amendment of the ordinance.

(c) For the granting of special exceptions under suitable regulations and safeguards; and notwithstanding any other provisions of this article, the governing body of any city, county or town may reserve unto itself the right to issue such special exceptions.

(d) For the administration and enforcement of the ordinance including the appointment or designation of a zoning administrator who may also hold another office in the county or municipality. The zoning administrator shall have all necessary authority on behalf of the

governing body to administer and enforce the zoning ordinance, including the ordering in writing of the remedying of any condition found in violation of the ordinance, and the bringing of legal action to insure compliance with the ordinance, including injunction, abatement, or other appropriate action or proceeding.

(e) For the imposition of penalties upon conviction of any violation of the zoning ordinance. Any such violation shall be a misdemeanor punishable by a fine of not less than $10 nor more than $1,000.

(f) For the collection of fees to cover the cost of making inspections, issuing permits, advertising of notices and other expenses incident to the administration of a zoning ordinance or to the filing or processing of any appeal or amendment thereto.

(g) For the amendment of the regulations or district maps from time to time, or for their repeal. Whenever the public necessity, convenience, general welfare, or good zoning practice require, the governing body may by ordinance amend, supplement, or change the regulations, district boundaries, or classifications of property. Any such amendment may be initiated (i) by resolution of the governing body, or (ii) by motion of the local commission, or (iii) by petition of the owner, contract purchaser with the owner's written consent, or the owner's agent therefor, of the property which is the subject of the proposed zoning map amendment, addressed to the governing body or the local commission, who shall forward such petition to the governing body; provided, that the ordinance may provide for the consideration of proposed amendments only at specified intervals of time, and may further provide that substantially the same petition will not be reconsidered within a specific period, not exceeding one year. Any

such resolution or motion by such governing body or commission proposing the rezoning shall state the above public purposes therefor.

In any county having adopted such zoning ordinance all motions, resolutions or petitions for amendment to the zoning ordinance, and/or map shall be acted upon and a decision made within such reasonable time as may be necessary which shall not exceed twelve months unless the applicant requests or consents to action beyond such period.

(h) For the submission and approval of a plan of development prior to the issuance of building permits to assure compliance with regulations contained in such zoning ordinance.

The ordinance may also provide that petitions brought by property owners, contract purchasers or the agents thereof, shall be sworn to under oath before a notary public or other official before whom oaths may be taken, stating whether or not any member of the local commission or governing body has any interest in such property, either individually, by ownership of stock in a corporation owning such lai or partnership, or whether a member of the immediate household of any member of the commission or governing body has any such interest.

Article 8.1.

Road Impact Fees.

§15.1-498.1. Applicability of article.--This article shall apply to any county or city which has had population growth of ten percent or more from the next to latest to latest decennial census year, based on population reported by the United States Bureau of the Census. However, this measurement shall not be used until after the Bureau has reported the 1990 census. Until the 1990 census is reported, any county or city instead may qualify if it has had an estimated population growth of ten percent or more from 1980 to the most recen

year for which population estimates are available from the Center for Public Service of the University of Virginia.

This article shall also apply to any city adjoining such city or county, or any town located within such county.

§15.1-498.2. Authority to assess and impose impact fees.--Any such county, city or town may, by ordinance pursuant to the procedures and requirements of this act, assess and impose impact fees on new development to pay all or a part of the cost of road improvements attributable in substantial part to such development.

"Cost" includes, in addition to all labor, materials, machinery and equipment for construction, (i) acquisition of land, rights-of-way, property rights, easements and interests, (ii) demolition or removal of any structure on land so acquired, including acquisition of land to which such structure may be moved, (iii) survey, engineering, and architectural expenses, (iv) legal, administrative, and other related expenses, and (v) interest charges and other financing costs if impact fees are used for the payment of principal and interest on bonds, notes or other obligations issued by the county, city or town to finance the road improvement.

"Impact fee" means a charge or assessment imposed against new development in order to generate revenue to fund or recover the costs of road improvements necessitated by and attributable to such new development. Impact fees may not be assessed and imposed for road repair, operation and maintenance, nor to expand existing roads to meet demand which existed prior to the new development.

"Road improvement" includes construction of new roads or improvement or expansion of existing roads to meet increased demand attributable to new development. Road improvements do not include

on-site construction of roads which a developer may be required to provide pursuant to §15.1-466.

§15.1-498.3. Service areas or districts to be established.--The county, city or town shall delineate one or more service areas or districts within its jurisdiction, each area or district having clearly related traffic needs. Impact fees collected from new development within a service area shall be expended for road improvements within that service area. A service area may encompass more than one road improvement project.

§15.1-498.4. Adoption of road improvements program.--Prior to adopting a system of impact fees, the county, city or town shall conduct an assessment of road improvement needs within a service area and shall adopt a road improvements plan for the area showing the new roads proposed to be constructed and the existing roads to be improved or expanded and the schedule for undertaking such construction, improvement or expansion. Once adopted, the road improvements plan shall be incorporated into the capital improvements plan or, in the case of the counties where applicable, the six-year plan for secondary road construction pursuant to §33.1-70.01.

The county, city or town shall adopt the road improvements plan after holding a duly advertised public hearing. The public hearing notice shall identify the service area or areas to be designated, and shall include a summary of the needs assessment and the assumptions upon which the assessment is based, and information as to how a copy of the complete study may be examined. A copy of the complete study shall be available for public inspection and copying at reasonable times prior to the public hearing.

The county, city or town at a minimum shall include the following

items in assessing road improvement needs and preparing a road improvements plan:

1. An analysis of the existing capacity, current usage and existing commitments to future usage of existing roads. If the current usage and commitments exceed the existing capacity of such roads, the locality also shall determine the costs of improving such roads to meet such demand.

2. The projected need for and costs of construction of new roads or improvement or expansion of existing roads attributable in whole or in part to projected new development. Road improvement needs shall be projected for the service area when fully developed in accord with the comprehensive plan and, if full development is projected to occur more than ten years in the future, at the end of a ten-year period. The assumptions with regard to land uses, densities, intensities, and population upon which road improvement projections are based shall be presented.

3. The total number of new service units projected for the service area when fully developed and, if full development is projected to occur more than ten years in the future, at the end of a ten-year period. A "service unit" is a standardized measure of traffic use or generation. The locality shall develop a table or method for attributing service units to various types of development and land use, including but not limited to residential, commercial and industrial uses.

§15.1-498.5. Adoption of impact fee and schedule.--After adoption of a road improvement program, the county, city or town may adopt an ordinance establishing a system of impact fees to fund or recapture all or any part of the cost of providing road improvements

required by new development. The ordinance shall set forth the schedule of impact fees.

§15.1-498.6. When impact fees assessed and imposed.--The amou of impact fees to be imposed on a specific development or subdivision shall be determined before or at the time the site plan is approved. The ordinance may specify that the fee is to be imposed at the time of the issuance of a building permit or the time of issue of a certificate of occupancy. The ordinance may provide that fees (i) may be paid in lump sum or (ii) be paid on installment at a reasonable rate of interest for a fixed number of years. The county, city or town by ordinance may provide for negotiated agreements with the owner of the property as to the time and method of paying the impact fees.

The maximum fee to be imposed shall be determined by dividing (i) projected road improvement costs in the service area when fully developed by the number of projected service units when fully developed, or (ii) for a reasonable period of time, but not less tha ten years, by dividing the projected costs necessitated by development in the next ten years by the service units projected to be created in the next ten years.

§15.1-498.7. Credits against impact fee.--The value of any dedication, contribution or construction from the developer for off-site road improvements within the service area shall be treated as a credit against the impact fees imposed on the developer's project.

The locality also shall calculate and credit against impact fees (i) the extent to which developments have already contributed to the cost of existing roads which will serve the development, (ii) the extent to which the new development will contribute to the cost of existing roads, and (iii) the extent to which new development will

contribute to the cost of road improvements in the future other than through impact fees.

§15.1-498.8. Updating plan and amending impact fee.--The county, city or town shall update the needs assessment and the assumptions and projections at least once every two years. The road improvement plan shall be updated at least every two years to reflect current assumptions and projections. The impact fee schedule may be amended to reflect any substantial changes in such assumptions and projections.

§15.1-498.9. Use of proceeds.--A separate road improvement fund or account shall be established for the service area and all funds collected through impact fees shall be deposited in such interest-bearing fund or account. Interest earned on deposits shall become funds of the account. The expenditure of funds from the account shall be only for road improvements within the service area as set out in the road improvement plan for the service area or district.

§15.1-498.10. Refund of impact fees.--The county, city or town shall refund any impact fee or portion thereof for which construction of a project is not completed within a reasonable period of time, not to exceed ten years, or if included within a county's six-year secondary road improvements program, not to exceed six years.

Upon completion of a project, the county, city or town shall recalculate the impact fee based on the actual cost of the improvement. It shall refund the difference if the impact fee paid exceeds actual cost by more than fifteen percent. Refunds shall be made to the record owner of the property at the time the refund is made.

#